

REMARKS

Upon entry of the Amendment, Claims 1-5 are pending in the application. Claim 1 has been amended.

Claim 1 has been amended to recite that wherein the second permeation-side passage material is different from the first permeation-side passage material. Support for the amendment to Claim 1 can be found in the specification, for example, at page 3, second paragraph.

Claim 1 has been further amended to correct a typographic error.

No new matter is added. Entry of the Amendment is respectfully requested.

I. RESPONSE TO REJECTION OF CLAIMS 1-5 UNDER 35 U.S.C. § 103 (a)

Claims 1-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 02/051528 to De La Cruz (“Cruz ‘528”), and/or Schmidt (US 6,352,641; “Schmidt”).

Applicants respectfully traverse the rejection.

Cruz ‘528 is relied upon to teach low pressure drop spiral wound modules for applications such as reverse osmosis or ultrafiltration as claimed in the instant application. It is the Examiner’s position that the first permeate side passage material in Cruz ‘528 is integral with the separation membrane (membrane is coated on it). The second permeate side passage material, which is wrapped around the core tube, is separate from the permeate side passage material.

Schmidt is relied upon to teach a spiral wound element. Figure 2 of Schmidt also shows multiple wraps of the permeate spacer material around the core as claimed - the first and second permeate-side passage material is the same, or monolithic.

The Examiner acknowledges that Cruz ‘528 and Schmidt do not specifically teach the recitation that the effective perforated-part area (area of perforated-part multiplied by the open

area of one round of permeate spacer around the core) is at least equal to the cross-sectional area of the tube. The Examiner continues to take the position that this factor can be optimized for lowest pressure-drop without compromising the strength of the core tube. The Examiner further asserts that “[w]ith respect to the “calculation”, applicant has not amended the claims to specifically recite the area of the perforations instead of the area of the perforated tube. However this would not make the claims patentable, because the claimed limitation can be optimized as well”. See Office Action, page 4, third paragraph.

Applicants respectfully disagree with the Examiner in this regard.

The examiner has failed to establish a prima facie case of obviousness. Specifically, in order for it to possibly have been obvious to optimize an alleged result-effective variable, the variable must be identified as a result-effective variable in the art. See, In re Antonie, 195 USPQ 6, 8-9 (CCPA 1977). It is irrelevant as to what the Examiner asserts that Cruz ‘528 and Schmidt “should” recite, but the actual disclosure of Cruz ‘528 and Schmidt is what should be considered.

Cruz ‘528 and Schmidt both fail to teach or suggest the recitation effective perforated-part area as calculated by multiplying the total area of the perforations in the perforated cored tube by the percentage of openings in one layer of the second permeation-side passage material is at least 1.0 time the inner cross-sectional area of the core tube. In addition, there is no disclosure in the reference itself, Cruz ‘528 or Schmidt, that teach or suggest the effective perforated-part area is a result effective variable.

Furthermore, Claim 1, as amended, recites that a second permeation-side passage material being spirally wound around the perforated cored tube, wherein the second permeation-side passage material is different from the first permeation-side passage material.

Cruz '528 and Schmidt both fail to disclose or teach the recitation that the second permeation-side passage material is different from the first permeation-side passage material.

In contrast, Schmidt discloses, for example in Figure 2, multiple wraps of the permeate spacer material around the core, wherein the first and second permeate-side passage material is the same.

In view of the above, Applicants request reconsideration and withdrawal of the present §103 rejection of Claims 1-5.

II. CONCLUSION

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Yan Lan
Registration No. 50,214

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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